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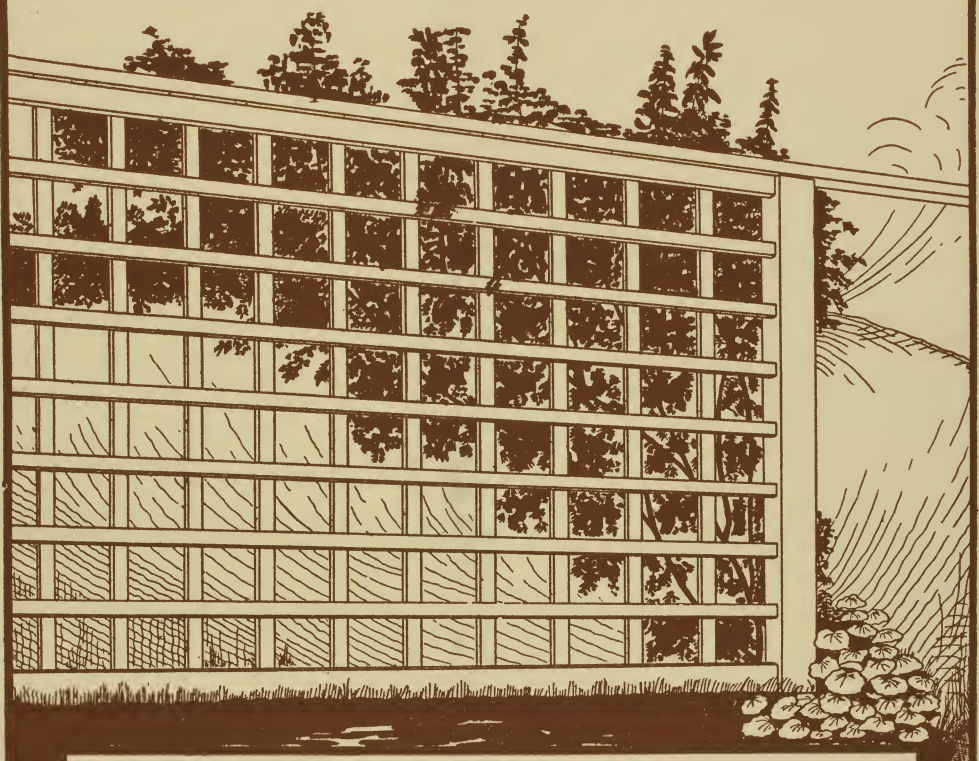
California Garden



IN THIS NUMBER

REPORT OF M. CARREVON'S LECTURE
LIST OF ALPINE PLANTS FOR THIS LOCALITY
SHOW AWARDS
PLANTS FOR DRY LANDS

APRIL 1926 TEN CENTS

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THE VISIT OF M. CORREVON

By Walter T. Merrill

Early in April, flower lovers of San Diego were privileged to meet M. Henri Correvon, who visited here for three days, the guest of Mrs. Gertrude D. Evans. The facts that he was here and that he lectured on April ninth under the auspices of the Floral Associations of Coronado, La Jolla and San Diego, are worthy of special notice, for M. Correvon is recognized as the world's foremost authority on Alpine flora. He has published many books on his special subject, several of which have been translated from the original French into English.

M. Correvon came to America in January, the guest of the Lowthorpe School of Groton, Massachusetts. He has toured the country, giving lectures in about forty of the leading cities. San Diego was fortunate in securing him for his only engagement in Southern California.

The lecture was really a showing of his wonderful color plates of Alpine plants in bloom—many from the mountain peaks of the Alps and others from his own very extensive Jardin d'Acclimatation (acclimatizing garden) at Chine-Bourg near Geneva. In his garden he has very extensive perpendicular rock walls, in the crannies of which he plants his seedlings. In almost infinite variety of saxifrages, primulas, helianthemums, crassulas, iberis, etc., in the most brilliant hues were shown clinging flatly to the rocks—for it is the habit of Alpine flora, like that of the desert, to show small leaves, short stems and large, varied hued blooms. Like desert plants, too, they early send out very long roots. In his own garden, really a botanic garden for display, the flowers are grouped on the walls according to their month of flowering, as well to give proper color harmony.

Mr. Harold Taylor of Coronado showed the pictures on the screen and on the next day exhibited to Mr. Correvon his splendid collection of color plates of our California wild flowers.

The technical information given us by the lecturer was exceedingly valuable to those interested in making rock gardens. Added to this was a fund of informal and very human and naive comment on flowers and gardens in general. It is to be hoped that no one felt offended by his expressed desire that the light and telephone poles and the billboards might be all done away with. Beauty lovers can only join him in wishing—with the very slightest of hopes of ever seeing the day when our streets shall no longer be so disfigured.

The writer enjoyed the privilege of accompanying M. Correvon on three drives, one through Balboa Park and the residential portion of the city, one to the Linda Vista Mesa with a long walk down one of the canyons leading into Mission Valley, and one to Torrey Pine Park.

Balboa Park he acclaimed as the finest example of the city park that he had seen in America, especially praising its combination of architectural treatment and the naturalistic style of gardening. The experinece of three-score years of constant study of plants is added, in Mr. Correvon, to the enthusiasm and activity of a boy of fifteen. He would see a new flower, shout "What is that? What is that?" have the door open and be ready to jump before the car could be brought to a stop. The three things that attracted his attention most in the city were Convolvus Soldanella, Bauhinia Purpurea and Erythrina (Coral Tree). In the Linda Vista Canyon he was tremendously excited over seeing Siline California. At Torry Pines Park, Mr. Fleming conducted us over those portions of the park where the greatest variety of wild flowers could be found and gave M. Correvon a great amount of information, and later took us to see Mr. Valentien's marvelous paintings of the California wild flowers, now in the library of Miss Ellen Scripps.

To judge by his actions, it would seem that our guest experienced as much pleasure as he gave, during his visit here. Certainly he said that the three days were the most useful that he had spent in America.

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DAHLIAS FROM SEED

Many garden makers have learned in the last year or two that it is quite possible to get good Dahlias from seed, the plants blooming the first season. Some quick-growing Dahlias will flower from seed sown out of doors after the danger of frost is past, but more certain results are obtained if the seed is sown in boxes of earth in a greenhouse or a kitchen, about the end of March. No attempt should be made to force the young plants, but when they have made their true leaves they may be shifted, preferably to paper pots. The best plan to follow then is to set them in a cold-frame, giving them plenty of air on warm days so that they will gradually be inured to the outside temperature. When danger of frost is past they may be set in the open ground where they are to flower. In England many Dahlias are grown in this way. It is to be understood, of course, that the character of the flowers to be obtained from seeds is uncertain. The seed never comes true, and some of the flowers may not be very pleasing. Occasionally an unusually fine flower is produced.

When named varieties of Dahlias are desired they must be grown from tubers. Many garden makers now are not satisfied with a mere flower, but want to know its name and desire to make themselves familiar with its habits. They will depend upon tubers or started plants.

The practice of starting plants in greenhouses has become well established. It is now possible to buy plants of nearly all the better known varieties. Even plants of dwarf bedding Dahlias, which have become very popular across the water, are obtainable this season, and it is to be hoped that these dwarf Dahlias will be planted more freely than in the past, as they have much to recommend them.—Horticulture.

DIVISION OF DAHLIAS

It is well to divide a large clump of Dahlia roots so that it is not a crowded mass; but unless it is a choice variety that must be increased as much as possible, we would not divide into single roots. We like to plant a little clump of two to three roots at least. As the eyes are not on the root but on the crown to which it is attached, one must be careful to include eyes with each division. We have seen nice plump roots cut away from the crown without any sign of an eye or bud, the mistaken person dividing in this way believing that the roots formed buds just as a sweet potato does. Of course, a serious disappointment resulted. Strong-growing sorts form such a congested clump of roots that careful division is a necessity; otherwise one gets a number of weak shoots. It is a good plan to give the roots warmth and moisture for a week or so before planting, so that the buds will show, as one is then sure of buds with each division. It is better not to grow shoots before planting, however, as they must be set early, and tender young growth above ground may be caught by a late frost. —Rural New-Yorker.

DAHLIA "STUNT"

There comes a time in Summer when the weather is hot and dry. Then the novice in growing Dahlias is apt to find his plants becoming stunted and their leaves turning light yellow. If he will strip off the lower leaves and add to them any spare garbage, lawn clippings, weeds he has pulled up, or ashes from the fireplace, and make a circle around each Dahlia about six inches away from the stalks, covering the pile with earth and then watering thoroughly, taking the nozzle off the hose and drenching the foliage at the same time, he will find a decided improvement in their condition. This mounding around the plant will save many a good Dahlia from hardening, and consequently producing few, if any, blossoms all year. More, the white flies seem to breed on the lower leaves, and if these are removed the pest is much easier to combat.—C. A. Gardin in Horticulture.

Accent Points of the Correvon Lecture

By K. O. Sessions.

The vegetation of all high mountans of the world is very similar. The Alps, the Pyrenees, the Caucasus, or the Himalayas all have a common and distinctive type. The stems are all short and the flowers are very bright in color and in size quite conspicuous. As we descend from the high mountains all plants are larger—more spreading—foliage more abundant and flowers less conspicuous. The foliage of high mountain plants often has a very hairy surface, like a protecting coat against the cold. We also observe that many plants of the desert have their foliage white or light grey, caused by the downy surface of soft hairs—nature's protection against heat. It is therefore very plain that plants do adopt themselves to climatic conditions, and shade loving plants are always soft and tender in their texture.

Another interesting fact concerning the mountain or Alpine growths, as they are generally called, is that the perennials displace the annuals. Only the perennial can have time to perfect its flower and fruit in the higher locations. The established plant is ready to send forth its leaves and buds as soon as the snow has begun to disappear. Often the plant's new growth pushes through the last thin snow-covering with very determined haste.

Between rocks, in cracks and crevasses, trees of the lowlands, are often growing in dwarf and stunted forms—such as oaks, pines and willows. They are like flat mats creeping over the rocks and their prostrate stems of various sizes.

The shrubs also take on the flat and creeping forms and when in bloom the flowers are so abundant that the foliage is quite obscured by their dazzling brightness. A Latin proverb speaks of flowers as the "stars of the earth," which is very true of Alpine blossoms. All the energy of the plant is concentrated in the blossom to produce seed—to perpetuate the species. The insects should be attracted to help in the pollinization and for that reason the flowers are far more brilliant than the blossoms of lower altitudes. The more people travel to the Alpine heights the more popular and interesting are the Alpine flowers.

It has been a difficult problem to cultivate Alpine plants—and the English have been the most persistent during the last century. Mr. Correvon has specialized in the cultivation of Alpine plants for the past fifty years and has found the greatest success with seeds, and has therefore established three seed farms or stations at high elevations for the culture of plants for their seeds. Growing plants from seed is slower but with this class of plants it is the safer way. Nature is the real teacher, and her methods are the best A Fall sowing and in the early Spring, the germination takes place.

Soil prepared for the seedling plants is very important, one-third peat or turf, one-third light loam and one-third sand. The sand must be free of lime. Snow is of great assistance in the germination of most Alpines—a hot house is the worst place for the germination of Alpine seeds. A cold frame is the safest method and exposure to use of snow. Next to snow spagnum moss is very helpful. Mr. Correvon has just published a book on Alpines and their culture which will be published soon in English. He advises the use of chopped or sifted sphagnum in the composition of soils for the culture of Alpines—and many other plants that are difficult of culture. Sphagnum is the best regulator of humidity. It serves as a sponge to the soil.

The rock garden is by far the most satisfactory use of Alpine plants presenting them in the most pleasing way and also the rock makes for their easy culture. In Mr. Correvon's nursery in Geneva, the place is called "Floraire"; he has walled up beds, the wall serving for many sorts of Alpines that flourish, particularly between the rocks so laid up. These rock walls are made of flat rocks and not cobbles. He also has shallow, slooping banks, where many sorts are growing and also one end of a building made of a very porous rock in which many interesting little Alpines flourish. The stone serves as a sponge the same as the sphagnum does.

The rocks of the world are useful, both in the mountains and the deserts, and certainly the association of rocks and plants is very artistic and beautiful. It is a fact that some plants hate limestone rocks and will not grow among them—such plants need the granite rocks. Sandstone rocks are the poorest to use for growing plants as they are not porous. If they must be used then plenty of sphagnum can be packed between and behind them to serve as a moisture regulator for the plants.

Mr. Correvon's colored slides of Alpines in their native locations were all very beautiful and a great variety were shown. Those slides showing the bareness of the mountain slopes and valleys where sheep and goats found pasturage were most conclusive of the damage done and how necessary shrubs and trees in particular for the conservation of water for lands and streams below.

Mr. Correvon has been a long and faithful worker in the cause of the preservation of the wild flowers and shrubs of all countries, and president of such societies.

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The slides showing his garden in its many details were very beautiful—and certainly exhibited a great variety of flowers and charming combinations of color. From these very plantings seed is collected.

After the lecture his seed catalogues were given to those interested, and one catalogue was especially marked—for varieties that could be successfully grown in San Diego or Southern California. The following list is a majority of the varieties marked:

Acaena sarmentosa.
Acanthus spinosissimus.
Agrostema coronaria.
Alyssum argenteum.
Alyssum macrocarpum.
Alyssum saxatile.
Anagallis linofolia.
Anemone pulsatilla.
Armeria plantaginea.
Asclepias tuberosa.
Aster porteri.
Aubrietia (all of the 30 varieties listed).
Betonica grandiflora superba.
Buphtalmum grandiflorum.
Calandrina umbellata.
Campanula alliariaefolia.
Campanula carpathica alba.
Campanula carpathica grandiflora.
Campanula carpathica compacta.
Campanula eriocarpa.
Campanula garganica.
Campanula sarmatica.
Campanula speciosa.
There are over 100 species listed.
Canarina companula.
Carlina acanthifolia.
Carlina cynara.
Centaurea Babylonica.
Cerastium argenteum.
Cerastium tomentosum is now growing here.
Chelone barbata.
Chelone imberbe.
Cistus, all 16 varieties listed.
Conolvulus cantabricus.
Convolvulus mauritanicus, now popular and useful here.
Coreopsis tripteris and others that are now in cultivation.
Coronilla montana.
Cynoglossum wallichianum.
Cytisus albus.
Cytisus austriacus.
Cytisus capitatus.
Cytisus hirsutus.
Cytisus laburnum and several others.
Dianthus alpestris.
Dianthus arenarius.
Dianthus capitatus.
Dianthus deltoides.
Dianthus knappii.
Dianthus plumarius and many others.
Dianthus superbus.

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Dianthus sylvestris.
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Erica stricta, the Corsican heather.
Erodium macradenum.
Erodiun Romanum, a sort of diminutive and creeping geranium.
Eryngium alpinum.
Eryngium giganteum.
Eryngium planum and several others.
Euphorbia myrsuites.
Gentian angustifolia.
Gentian lagodechiana.
Gypsophilla repens.
Geranium argenteum.
Geranium grandiflorum.
Geranium pratense.
Geranium sanguineum.
Glaucium luteum.
Glaucium tricolor.
Helianthemum, all the 22 varieties.
Incarvillea Delavayi.
Incarvillea grandiflora.
Iris Bosniaca.
Iris chrysographes.
Iris laevigata.
Iris orchioides.
Iris Regelio-cyclus.
Iris Xyphioides.
Lilium pomponium!!
Morine longifolia.
Nepeta mussini (already slightly known here).
Ononis fruticosa.
Ostrowskya magnifica!!!
Paeonia decora.
Paeonia lutea.

Continued on Page 14

The April and May Gardens

APRIL-MAY GARDENS

By Mary Matthews

A garden without plenty of flowers during the mid-Summer is often a sorry spectacle. It so often happens that one can hear a person admiring and envying a wealth of bloom in another person's garden and still they know they could have had something just as good if only the right thing had been put in at the right time.

Among the popular bedding plants to be given attention at this time are Asters in their numerous kinds. Asters have been so much improved of late and there is such a wide range of color that by making a good selection of kinds it is possible to have a long period of bloom. Seeds should be sown in a gentle heat during early Spring and as soon as strong enough transferred to flats or boxes and grown cool until fit for planting out about the last of May. A bed of good loamy soil into which has been dug some well-rotted manure will just suit them. Do not fail to have some of the single Asters which now come in all colors.

Zinnias can be put in now in the seed boxes to be brought on for later planting. They require practically the same treatment as Asters do in the early stages.

Verbenas have long been popular subjects for Summer bedding but the old way of raising them from cuttings every year has lost favor now that there are so many kinds which come easily and true from seed, but be sure and buy the very best strains; poor seeds are always disappointing.

Such tubers as Cannas, Dahlias, Tigridias, Tuberoses, etc., can be put in during May.

Fill in your bulb beds where the foliage has yellowed with quick-blooming annuals, if you wish.

Make a first sowing of perennials for next year's garden. Seeds of the old-fashioned Hollyhocks can be sown outdoors now; when large enough to transplant they should be given more room and they will make strong flowering plants for next year. Spray frequently with "Bordeaux" to prevent Hollyhock disease.

Aquilegia (Columbine) seeds should be sown now for next year's bloom. As a general rule they are short-lived and apt to die after flowering. They can be perpetuated by sav-

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THE GARDEN

By Walter Birch.

Weather conditions of the last couple of weeks, bringing us four or five inches of soaking rains, when we only expected a few showers, have made the gardening possibilities of the coming summer the best we have had in Southern California for many a long year. It is to be hoped that all of us who are interested in the garden, have spread a blanket, so to speak, over the surface of the ground, by thoroughly cultivating to a depth of four or five inches to conserve the wonderful supply of moisture, which, if properly taken care of and helped out from time to time by a moderate amount of irrigation will last all the summer.

Most plants, both vegetable and flower, on the lighter, well drained soils have made a wonderful growth since the rains, and planting conditions are likely to be very favorable for some time to come.

A careful stirring of the soil, leaving a fine surface near all growing plants, will be of much benefit at this time, and some finely pulverized sheep manure worked in around both vegetable and flowering plants will boost them along in great shape.

Some of the same fertilizer spread on the surface will be very beneficial to the lawn. The particular brand referred to is "Grow It", which is finely pulverized, put up in hundred pound sacks and is weedless, the sheep being fed on cotton seed oil cake and other by-products of cotton, making this fertilizer very rich in plant foods.

The Dahlia bulb planting season is here again, and it is important to have the location of your dahlia bed as much in the sun as possible, or where the sun will break through. When grown in dense shade the plants are usually tall and spindly and flowers small. Any fairly good soil will grow good dahlias, although a rich, sandy loam is preferable. If you have not already prepared your dahlia bed by deep spading in of well rotted manure do not use manure near the bulb at time of planting, but dig a hole fifteen inches or more and then fill the bottom with soil and well rotted manure, spading in about four inches of fine soil on top of this, planting the tuber about six inches deep, lay it down flat in the hole, not standing it on end, as so many people do. Tubers should

Continued on Page 16

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Associate Editor
Miss Mary Matthews

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LIST OF AWARDS

Made at the Nineteenth Annual Spring Rose Show of the Floral Association

So admirable have been the reports of this show published in the San Diego Union, and so limited is the space in this magazine that only the list of awards is published here. However the Directors of the Floral Association wish to thank one and all, workers and exhibitors, for their splendid co-operation which made for a smooth and big success, and in doing so feel that the Park Department with John Morley in direction must be mentioned by name, for without its help these shows, admittedly the best in Southern California, could not be maintained at their amazingly high standard.

Follows the list of awards.

Section A

Class 1. Best collection of roses, not less than 12 varieties—First prize, F. L. Hieatt; second, E. J. Ridgway; trophy, F. L. Hieatt.

Class 2. Best collection of roses, six varieties—First prize, Mrs. Josephine Vacher; second, Mrs. Harriet Wahlbrook; third, Mrs. F. A. Dunbar; trophy, Josephine Vacher.

Class 3. Best three white roses, one variety—First prize, F. L. Hieatt; second, Mrs. M. H. Cook; third, Mrs. Josephine Vacher.

Class 4. Best three red roses, one variety—First prize, F. L. Hieatt; second, Mrs. M. H. Cook; third, Mrs. Harriet Wahlbrook.

Class 5. Best three yellow roses, one variety—First prize, F. L. Hieatt. second, F. L. Hieatt; third, W. B. Gutteron.

Class 6. Best three yellow shaded roses, one variety—First prize, Mrs. R. H. Collins; second, Mrs. Josephine Vacher; third, Mrs. Leighton Cornman.

Class 7. Best three pink roses, one variety—First prize, F. Strasser; second, Mrs. Josephine Vacher; third, Annie Hull.

Class 8. Best three pink shaded roses, one variety—First prize, Mrs. E. J. Daly; second, Mrs. Josephine Vacher; third, Miss Emma Waterman.

Class 9. Best three flame colored roses, one variety (example Mde. Heriot)—First prize, F. L. Hieatt; second, Mrs. L. S. McKenzie.

Class 10. Best one white rose—First prize, Mrs. M. H. Cook; second, Mr. and Mrs. E. Thelen; third, Mrs. F. A. Dunbar.

Class 11. Best one pink rose—First prize, Mrs. E. J. Daly; second, May C. Collier; third, Mrs. Marie Webber.

Class 12. Best one yellow rose—First prize, Mrs. John Heermance; second, Mrs. E. J. Daly; third, Mrs. Josephine Vacher.

Class 13. Best one red rose—First prize, Miller Bushway; second, Mrs. F. A. Dunbar; third, Mrs. E. J. Daly.

Class 14. Best one crimson rose—First prize, Mrs. Leighton Cornman; second, Mrs. F. A. Dunbar; third, Mrs. Freese.

Class 15. Best single rose (example Isobel or Irish Elegance)—First prize, F. L. Hieatt; second, Mrs. M. H. Cook; third, Mrs. E. J. Ridgway.

Class 16. Best display of Polyantha or baby rose—First prize, Loro Chapman; second, Loro Chapman; third, Miss Martha Brown.

Class 17. Best display of climbing roses—First prize, F. L. Hieatt; second, Mrs. F. A. Dunbar; third, Miss Mary Matthews.

Class 18. Best rose not before shown in San Diego—First prize, F. L. Hieatt; second, F. L. Hieatt; special, Mrs. R. Graham.

Class 19. Best six General McArthur roses—First prize, Mr. and Mrs. E. Thelen; second prize, Mr. and Mrs. E. Thelen.

Class 20. Best six Los Angeles roses—First prize, Mrs. George Abel; second, Mrs. George Abel.

Class 21. Best six any other variety roses—First prize, Mrs. M. H. Cook; second, Mrs. Josephine Vacher; third, Mrs. Josephine Vacher.

Class 22. Best arranged vase, bowl or dish of roses—First prize, Mrs. F. A. Dunbar; second, Mrs. E. J. Ridgway; third, Lewis F. Wilcox.

Class 23. Best arranged basket of roses—First prize, Mrs. Douglas M. Billings; second,

W. B. Gutteron; third, Mrs. Josephine Vacher; trophy, Mrs. Douglas Billings.

Class 23A. Best single seedling—Special, J. G. Morley, Balboa Park.

Section B—Amateurs

Class 24. Best arranged basket of flowers other than roses—First, F. T. Scripps; second, F. L. Hieatt.

Class 26. Best arrangement of flowers in bowl, vase or dish—First prize, Mrs. Neil Taylor; second, F. L. Hieatt; third, Mrs. Harness.

Class 27. Best flowering plant for the house—First prize, Mrs. F. Johnson; second, Elizabeth Woodson; third, Mrs. Harness.

Class 27A. Best display ferns—First prize, Col. Ellis B. Mitchell; second, Col. Ellis B. Mitchell.

Class 28. Best individual specimen decorative plant—First prize, Mrs. Frank Strasser; second, Naval Air.

Class 29. Best cut specimen flowering vine—First prize, Mr. and Mrs. E. Thelen; second Mrs. F. J. Wyso; third, Mrs. R. Graham; special, Mrs. H. L. Kahn.

Class 30. Best display of bulb flowers—First prize, Mrs. Neff B. Bakkers; second, Mrs. John Burnham; third, George Abel; trophy, Mrs. Neff Bakkers.

Class 31. Best display of gladiolus—First prize, J. L. Case; second, Mrs H. L. Kahn; third, Mrs. Amelia Sechrist; special, Charles G. Goldman; Cushman trophy, J. L. Case.

Class 31A. 1025 gladiola seedling—First prize, K. L. Warner.

Class 32. Best display of iris—First prize, Miss Mildred McLemore; second, Mrs. Herbert Evans; third, Miss Mary Matthews; trophy, Miss Mildred McLemore.

Class 33. Best display of pansies—First prize, George W. Marston; second, Mrs. Jennie Owens; third, Raymond Peters.

Class 36. Best general collection of flowers from a 50-foot or less lot—First prize, Mrs. W. S. Thomas; second, Alford B. Partridge; third, Mrs. Hans Peters; award of merit, Mrs. W. J. Clark; trophy, Mrs. W. S. Thomas.

Class 37. Best general collection of flowers from a private garden larger than 50 feet—First prize, Mrs. H. L. Kahn; second, Mrs. George W. Marston; trophy, Mrs. H. L. Kahn.

Class 37A. Best display from civic, state or national institution—First prize, Naval Training Station; second, Naval Air; trophy, Naval Training Station.

Class 38. Best collection of sweet peas—First prize, Mrs. F. S. Callender; second, Mrs. L. S. McKenzie; third, Naval Air; trophy, Mrs. F. S. Callender.

Class 39. Best vase white sweet peas—First prize, Naval Air Station.

Class 40. Best vase light pink sweet peas—First prize, Mrs. F. S. Callender; second, Naval Air Station.

Class 41. Best vase dark pink sweet peas—First prize, Mrs. F. S. Callender; second, Naval Air Station; third, May C. Collier.

Class 42. Best vase red sweet peas—First prize, Miss May C. Collier.

Class 43. Best vase lavender sweet peas—First prize, Naval Air Station; second, Naval Air Station.

Class 43A. Best vase blue sweet peas—First prize, Naval Air Station.

Class 44. Best vase purple sweet peas—First prize, Naval Air Station; second, Dr. A. M. Muhl.

Class 45. Best vase salmon sweet peas—First prize, Mr. and Mrs. E. Thelen; second, Naval Air Station; third, May C. Collier.

Class 46. Best vase maroon sweet peas—First prize, Naval Air.

Class 47. Best vase bi-color sweet peas—First prize, Mrs. Appleman; second, Naval Air Station; third, Naval Air Station.

Class 49. Best arranged bowl of sweet peas—First prize, Mrs. Lloyd Noble; sweet pea sweepstakes trophy, Naval Air Station.

Class 49A. Flowering shrub—First prize, Mrs. Harriet Wahlbrook; second, Mrs. Robert Graham.

Class 51. Best display cinerarias (stellata)—First prize, Mrs. H. L. Kahn; second, Mrs. W. J. Clark; third, Mrs. M. G. Straus.

Class 54. Best display of pelargoniums—First prize, Naval Air Station; second, Mrs. H. L. Kahn; third, Mrs. F. S. Callender.

Class 55. Best display of geraniums—First prize, Mrs. W. J. Clark; second, Mrs. Jennie Owens.

Class 56. Best display of Delphiniums—First prize, Mrs. M. A. Alexander; second, R. C. Rutan.

Class 57. Best display of stocks—First prize, Naval Air Station.

Class 58. Best display of snapdragons—First prize, Naval Air Station; second, Mrs. Neil Taylor; third, Wit Hamman.

Class 59. Best display of calendulas—First prize, Mrs. Jennie Owens; second, Mrs. W. J. Clark; third, Mrs. Neil Taylor.

Class 60. Best display of larkspurs—First prize, Mrs. W. J. Clark; second, Mrs. S. C. Payson; third, Mrs. Robbins.

Class 61. Best display any other flowers not otherwise classified—First prize, Naval Air Station; second, Mrs. Roy Lawton; third, Mrs. Joyce Thompson.

Class 62. Best table decoration—First prize, Mary Marston; second, Mrs. H. B. Day; special, W. A. Porterfield; trophy, Miss Mary Marston.

Section C—Children's Classes

Class 63. Best collection of wild flowers by any school in city—First prize, Edison School; second, Emerson School; third, Encanto School; trophy, Edison School.

Class 64. Best collection of wild flowers by

any school in county, outside of city—First prize, Viejas School; second, Dulzura School; trophy, Viejas School.

Class 65. Best display of flowers and shrubs from school gardens—First prize, El Cajon Valley Union; second, Garfield School.

Section D—Professionals

Class 72. Best display of cut roses—First prize, Bode's Nursery; trophy, Bode's Nursery.

Class 73. Best general display of cut flowers other than roses—First prize, Miss Kate Sessions; second, Frank M. Warner Co.; third, The Wight Gardens.

Class 74. Best general display of shrubs and plants—First prize, Milton P. Sessions; trophy, Milton P. Sessions.

Class 76. Best display of bulb flowers—First prize, Frank W. Warner Co.

For Florists

Class 77. Best arranged basket, bowl or vase of cut flowers—First prize, Rosecourt Floral Co.; second, Art Flower Shop; third, Art Flower Shop; special, E. P. Zimmerman; trophy, Rosecourt Floral company.

Specials and First

Park Department—Roses and general display.

Rosecroft Begonia Garden.

Natural History Museum.

Kenneth L. Warner—Encinitas gladiolus.

Thomas L. McLoughlin—Encinitas gladiolus.

Bode's Nursery—Best display cut roses.

Sweet pea sweepstakes—Naval Air Station.

Special, E. Benard—Best collection bush roses.

REGULAR MONTHLY MEETING FOR APRIL

On the evening of Tuesday, April 20th, the regular monthly meeting of the San Diego Floral Association was held at the Floral Home in Balboa Park. This meeting was called to order by Mrs. Mary A. Greer, the new President, who, after a few remarks regarding the Flower Show plans, introduced Horticultural Commissioner R. R. McLean, the speaker of the evening. Mr. McLean gave a very interesting and enlightening talk on "The Narcissus Nematode," which he made the more realistic by allowing the audience to look at a real live nematode squirming around on the slide of a powerful microscope.

Mr. McLean has kindly written up his speech for the California Garden so that those who were not at the April meeting may have this opportunity of learning about the nematode.

After Mr. McLean's talk the meeting was adjourned and a pleasant social hour was enjoyed, as were also the delicious coffee and cakes served by the House Committee.

AM I BEHIND IN MY DUES?

So many people call up or write in to the Secretary to ask this question, and no doubt many others would like to keep track of their dues and have the satisfaction of knowing when it was time to pay them. This information is printed every month on the cover of this magazine, and if you will look right now you will see that after your name is a letter—either "M", if you are a member of the San Diego Floral Association as well as a subscriber or "S" if you are a subscriber only. After the "M" or "S", as the case may be, you will find figures, as, for example, "6-26" which means that John Doe's subscription will expire the 6th month of 1926. If you should find that the figures after your name read "6-25" it would mean that you are eight months behind in the payment of your dues, and a check made out to the San Diego Floral Association mailed to Box No. 323, would be the answer.

Obey that impulse!

Glads - Dahlias

If you have not already planted your Dahlia roots now is the time to see that they go in the ground. We have a large stock of the varieties that always do well in this section, such as, Countess of Lonesdale and A. D. Lavoni, at 25 cents; Dreer's White, F. W. Fellows, Red Sea, Millionaire, etc., at 50 cents; Mary C. Burns, Meyerbeer, Bertha Horne, etc., at $1.00; a good collection of pompons at 35, 50 cents and $1.00, as well as the best of the new ones when you wish a little something better than the ordinary kinds.

Glads can still be planted and give a most satisfactory account of themselves. We still have a number of dormant varieties on hand as well as our No. 1 assortment at $4.00 per 100 and our No. 2 assortment at $2.50 per 100, 50 at the 100 rate.

Call and see us at our Gardens or write us for advice regarding these plantings.

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National City, Calif.

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WARNING TO NARCISSUS GROWERS

By Robert R. McLean,
County Horticultural Commissioner

A dangerous enemy of certain bulbous plants has lately become established in the bulb-growing districts of California and unless prompt control measures are undertaken it will, in the future, seriously affect the growing of such plants. All varieties of Narcissus are attacked and, strangely enough, such bulbs as onions and garlics are equally susceptible.

The pest, growers must prepare to fight if they are to continue to grow the beautiful Narcissus and the humble but indispensable onion, is known as the bulb nematode, closely related and very similar to the familiar garden or root-knot nematode, both of European origin. It is so small that, like the garden nematode, it cannot be seen without the aid of a powerful glass, but the effect it produces upon leaves and bulbs is unmistakable and characteristic.

We have long known that the bulb nematode is a serious pest of European Narcissi and in fact is was one of the major reasons why a federal quarantine was placed upon the further importation of this class of bulbs, effective January first of this year. In the two or three months preceding the quarantine thousands of cases of bulbs were imported into the U. S., many hundreds of them coming to California. A check of the recent plantings in San Diego County made by inspectors of the horticultural commissioner's office indicates that these last importations are largely, if not altogether, responsible for introducing the destructive pest into this county. Out of 273 plots planted to Narcissi, from Carlsbad to El Cajon and Chula Vista, representing 25 acres, 167 were found infested.

During the growing season the nematodes work in the leaves of bulbs causing certain definite spots or lesions known as "spikkels" by the Dutch. As the tops die down the nematodes descend into the necks of the bulbs, continuing to work after the bulbs are lifted, producing a decay of the tissues. When replanted affected bulbs will not produce vigorous foliage or flowers and in a short time become worthless. Many of the nematodes have, in the meantime, escaped to the soil where they will readily attack other bulbs planted therein.

The only practicable method of freeing the soil of bulb nematodes is to plant non-susceptible crops for several years. Infested bulbs may be sterilized by soaking them in hot water for a period of 3 hours at a temperature of 110 degrees. This can be done during July, August or September only. Plans are under way to establish a hot water dipping plant at some central point in the county where all Narcissus bulbs will be treated under the direction of the horticultural commissioner. The state department of agriculture plans to soon issue a regulation forbidding the movement of infested bulbs until they have been so treated.

Readers of the California Garden are invited to consult the horticultural commissioner concerning bulb or other garden troubles. While primarily established for regulatory and police work in connection with agricultural matters, the horticultural commission is anxious to be of the highest possible service to the people of San Diego County and will gladly respond to any call for advice or assistance.

MAY WEATHER IN SAN DIEGO, CALIF.

Usually this month is characterized by much cloudiness, relatively cool days and deficient sunshine as compared with the other months of the year. While the actual temperature is not low, yet the overcast skies, coupled with the moist, ocean wind, produces the impression that it is much lower than that recorded by the thermometer. Nevertheless there is a mildness and balminess to the air. As far back as the records extend there have been few days with a temperature above 80 or below 60 degrees, and only once did the thermometer drop below 45 degrees.

The wet season usually closes during the first half of the month, and storms grow less frequent. On two dates only has the wind reached a 30-mile velocity, but hour for hour the month is liable to be the windiest of the twelve.

By and large, May can be considered the transition month from winter to summer as we have no spring in the sense that it is known throughout the east. It is neither cold nor warm; wet nor dry; but partakes of both seasons.

Statistics show us that mean maximum temperature for this month is 66 degrees; the mean minimum, 56 degrees; the absolute highest temperature recorded, 98 on May 25, 1896; the lowest, 45 on the 3rd, in 1915. The average rainfall is .33 inches, but in 1921, 2.54 inches fell in the city and there have been many Mays without any rain. The sun shines on the average 50% of the time.

Patronize the Garden Advertisers.

CHRYSANTHEMUMS FOR THE GARDEN

Chrysanthemums are gross feeders. Rich soil, and constant feeding and an abundance of water are essential to their proper development. Frequent cultivation is also essential, not only to keep down the weeds, but to permit access of air to the roots. As soon as possible after heavy rains, the ground should be broken up to prevent the rapid evaporation of moisture that ensues when the soil is left uncultivated to bake in the hot sun.

Well-rotted cow, horse or sheep manure liberally applied and spaded into the soil in Spring, preferably some weeks before plants are to be set out, will afford all the food required up to the stage of vigorous growth, a month or more after setting out. A half teacupful of dried sheep manure dug in around each plant every ten days, will both improve the texture of the soil and provide sufficient nourishment until the buds begin to appear when weak liquid sheep manure, a teacupful to four gallons of water, should be applied twice a week, until the buds show color when fertilizing should cease. This weak solution may be used liberally. Chemical fertilizers, if used at all, should not be used to the exclusion of animal manures as the latter improve the soil, the former do not.

As with Roses and many other plants, mulching is very beneficial to Chrysanthemums in Summer, conserving the moisture in the soil and keeping the soil cool.

Suckers are growths springing up at the base of a plant generally after mid-Summer. They should be removed as they appear else they will sap the strength from the plant. If aphis become too numerous for anything but spraying, the usual tobacco insecticides will exterminate them. Other pests than those mentioned have not been troublesome, save one which merits special mention—a minute worm-like creature which eats out the substance between the upper and lower surfaces of the leaves. His presence is known by the tip or edge of the leaf turning a chocolate brown and sometimes appearing as if blistered. By tearing open the discolored portion of an affected leaf, the little rascal may be found. If the discolored portion is thoroughly squeezed when first noticed, the pest is killed and the discoloration confined to the area affected.—Gardeners' Chronicle.

MUEHLENBECKIA NANA (WIRE VINE)

Of the few Muehlenbeckias in cultivation M. nana is the best one for the small rock garden. M. complexa is only suitable for a wall or for hanging down very large rock work, but M. nana is suitable for the small rock garden and is quite attractive with its neat, prettily-tinted leaves and its compact habit. It is only a few inches high.—Garden Illustrated.

GROWING LILIUM REGALE FROM SEED

If the frame is well prepared with a mixture of leafmold, loam, and sand, and a smooth surface made, the seeds should be evenly broadcasted over the surface, rather than in rows. Being light, the seeds must be sown on a calm day. Right after sowing, sprinkle with a watering can, then barely cover with clean, sharp sand. Water again and place sashes over the frame, covering the sashes with cloths or mats, to keep the seeds in darkness for several weeks till germination comes. Treated thus, the seeds will germinate about as thickly as the proverbial Mustard and Cress. They should be kept this way until the Fall of the following year, being occasionally weeded and watered. Where the seedlings come up very thickly, transplant them to the spaces where they have germinated thinly. Sashes can be removed entirely, when the plants show the first green leaf fully developed. Leave them exposed till quite a sharp frost is felt, and then a light mulch can be placed over the frame, and sashes over it for the Winter. Practically the same treatment follows for the next year. The bulbs will be about as large as those raised in the greenhouse and transplanted, with a minimum amount of trouble. Where a person has neither frame or greenhouse, the seeds can be sown in the open ground, well prepared, where they will also germinate freely. Almost all Lilies can be raised in this manner. Many bulbs will throw a flower the second season, which ought to be removed as its production weakens the bulbs. Bulbs should be planted out in rows and covered about six inches in the Fall of the second year. A place in a vegetable garden or in a part of the garden, where flowers are grown for cutting, is ideal.—Popular Gardening.

A VARIEGATED DAHLIA

As is to be expected, many new Dahlias are being offered this season. Some of them are remarkably handsome. A Dahlia called Robert Ogden Fletcher has attracted much attention. This Dahlia was originated by W. F. Brown, formerly of Norwich, Conn., but now a resident of Uncasville in that state. It is probably a seedling of Lady Helen, and was named for the first Norwich boy to be killed in the World War. The Robert Ogden Fletcher is a hybrid decorative Dahlia of large size. It is yellow at the center, shading to white at the tips and flecked with red. The color combination is quite unusual, and wherever seen it has been described as a variegated Dahlia of exceptional merit. One person admiring it remarked: "Its gold is for patriotism; its red for the blood of sacrifice; and its white for peace."—Horticulture.

Patronize the Garden Advertisers.

LATH HOUSE MATTERS

By Alfred D. Robinson.

Last month I allowed my sense of editorial responsibility to crowd out this article and I am pleased to record that some readers objected. This month is perhaps the most important of the year in lathhouse work; it is the time to plant. Owing to a phenomenally warm winter (?) the season is very forward and the providential heavy rain of early April did not delay it any, in fact it had hardly stopped before all forms of growth were arising and calling it blessed. More of the rain later.

Now the ground has had a real wetting it is vital that it should never dry out, and in saying that, I am referring to the surface, not a few inches down where you can scratch to show how damp it really is. We must remember that **atmosphere** spells Begonia ill or well, and we wet up our lathhouses to secure this atmosphere just as much as we seek to put water to the roots. Also never forget that Begonias root almost on the top of the ground, and moisture a few inches below the surface may not be available. In working over my Rexes I have been struck anew by the Begonia habit of rooting up instead of down. They are abandoning the old roots in favor of new ones made from the base of the new growth. Any repotting should now be pushed right through, though the Begonia is peculiarly tolerant of interference while in growth and resents it when dormant. Tuberous Begonias are far advanced, one Lloydii is already in flower and many have buds, but this must be regarded as premature, for the family will hold its buds only when the thermometer is short and should, as often happens in May, come a spell of cool nights, these ambitious plants may be sorry. Do not coddle your tuberous. get them in a good strong light and not against a wall, otherwise they will tend to be weedy and one-sided. However, once they have started growth, any check is bad and may spoil the plant for the season. Watering must be enough but by no means overdone, rather a little dry on dull days.

Seedlings are being pricked out and remember they cannot stand direct sunlight; it takes all their color and checks growth. If they are to succeed and bloom this year they must hump right along.

Cuttings of all Begonias can be struck now, the sooner the better, and in this connection it should be said that MOST tall growers benefit by yearly topping to induce branching. I am quite commonly placed in a position of defending the tall growers against folks who find them unsatisfactory and weedy when a judicious pruning would have habited them as desired within the capacity of the space they occupy.

The Begonia race is not long-lived, that is, they are no redwoods, and specimens do get straggly, defoliated and generally senile. Nature cares for this with many of them by the habit of renewal, by sending up new canes from the root and with these a removal of old wood is occasionally indicated. Others frankly grow old and should be taken out and thrown away. A certain amount of root knot is exhibited in the family generally following a bruise or other injury; in such case, to remove and burn is the safe course.

Possibly some of you noticed a heavy drop of leaves since the rain. Don't worry, as this is a good thing and a sign of growth.

Try some of the bedding varieties in pots and you will be pleasantly surprised at the stunning specimen plants they will make. Use a good-sized pot and when established water every fourth time with a weak liquid fertilizer. They feed in proportion to their rapid development. I expect a wonderful progress in this class in the next few years.

Now to return to the rain, which gave us at Point Loma six inches and eleven hundredths in six days, the most water to fall in that time in the twenty-four years that I have lived there. It broke so many records that lots of folks have not yet finished listing them, but it did not injure a blossom on the hundred varieties of Begonias in bloom under a mere lath protection, confirming a suspicion I have lately entertained that the cold and not the wet of rain was the despoiler of these plants. It also filled up every available vessel with rain water. Doubtless you have laughed as you have noticed my growing obsession about rain water, so supposing, I feel the need of justification. Nearly two years ago Fred Howard visited Rosecroft and made for me an epochal remark; looking at the Rex seedlings, he said, "What they want is rain water. When they get that, Oh, Boy, see them grow!" Well, they did not get rain water because I did not have any, and being a loyal San Diegan I did not believe our brand of water could be improved upon for anything by anybody, god or devil, and those seedlings did not act happily and many many died. Then another plant crank called and gloated over my failures as compared with his successes, and my guardian angel prompted me to ask him what water he used and he replied, "Oh, I have a big tank of rain water." Later a propagator retailed a story of great success with Rexes when he worked with an

Eastern firm and his comparative non-success everywhere else; he also admitted to using rain water. Now this year I have used rain water, painfully stored, by means of a spray pump and a singularly amateur guttering and equipment, and up to the present the result with Rexes from the seed to the large plant has been perfectly phenomenal. Other factors possibly have been at work, but there is no comparison possible between results with the same seed and plants this season using rain water and last season using from the regular supply. The first has yet to record a single case of anything below a perfect score and the other never qualified for the finals. I do not think I am given to undue enthusiasms, but I am ready now to say that I would not consider continuing on anything but a purely experimental scale the raising of the slower developing Begonias from seed without rain water.

It seems to me, looking back over a fairly long lifetime mostly wasted fussing over plants, that innumerable failures with seeds and plants and ferns in particular were due to this water factor. The number of people who plant seed is tremendous, the number that fail is immense, and yet this matter of the water used is seldom mentioned. The vast majority of houses are guttered to get rid of the rain water when it should be stored. A recent visitor, in fact two of them, when discussing the problem of growing plants in pots admitted to having large reservoirs of rain water that they used only for washing hair and clothes, but in future the plants will get a share, and personally being a bit queer, I admit to a thought that a city, which continually howls about water supply, should make it obligatory that building plans should include facilities for catching and storing rain water.

"MONEY IN BOTH POCKETS"

Some one has asked about this; "Garden Ilustrated" says this is the somewhat quaint name given to Lunaria biennis, or "Honesty," in allusion to the way in which the seeds are placed on each side of the middle division of the pods. The purple variety is most common but the pods of the white variety are purer. Best plants are had by sowing in May or June where the plants are to remain to flower the following Spring, thinning them out as needful. Another common name for them is "St. Peter's Pence." M. M.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912,

Of California Garden, published monthly at Point Loma, California, April, 1926:

State of California, County of San Diego, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Alfred D. Robinson, who, having been duly sworn according to law, deposes and says that he is the Editor of the California Garden, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher, San Diego Floral Association, Point Loma, Calif.

Editor, Alfred D. Robinson, Point Loma, Calif.

2. That the owners are: (Give names and addresses of individual owners, or if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.) San Diego Floral Association, Point Loma, Cal., Pres. M. A. Greer, 2972 Front Street, San Diego., Cal.; Sec. Mrs. R. C. Rutan, 4738 Kensington, San Diego, Cal. There is no capital stock.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holders appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has not reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

ALFRED D. ROBINSON.

Sworn to and subscribed before me this 16th day of April, 1926.

HELEN E. SUTTON.

My commission expires May 1929

MRS. EVANS ENTERTAINS FUORAL ASSOCIATION

On Thursday afternon, April 1st, Mrs. Herbert Evans threw open her lovely Mission Hills garden to the San Diego Floral Association.

It was a treat of which some two hundred members took advantage, and as Mrs. Evans' garden is one of the most charming in the city those who went were very glad indeed that they had done so. A gorgeous bird-of-paradise (strelitzia regina) bade you welcome just inside the garden gate, lovely Spanish iris stood at the edge of a nearby pool, while beyond a rustic pergola, festooned with lavender and white wistaria, and bordered by splendid cinerarias, led to the edge of the canyon, down the side of which tumbled a riot of tulips and iris, agathea and ferns—many, many varieties of ferns and other flowers too numerous to remember. A path leading down the hillside took you to the edge of a dear little pool with gold-fish swimming lazily in th clear water. A miniature mountain torrent which comes cascading down the canyon side, feeds the pool with fresh water continually, as well as a musical note to harmonize with the chorus of beautiful colors furnished by the lovely flowers.

LIME AND SOOT

Patches of ground in many gardens and allotments have a "snowy" effect just now, and this proves that lime is still thought a good deal of for the production of good crops. When, on perceiving a signalman dressing his plot by the side of a railway line the other day, I asked him the purpose, I received a very vague reply. It was to the effect that someone had told him he would not be troubled with slugs and other pests this spring if he applied lime now. I have my doubts, for the lime looked very "dead," and I would sooner wager on its meagre fertilizing effect than as an exterminator of ground pests.

Genuine slack lime is, of course, a well-known manure, and gardeners have long recognized its qualities. Its action is truly chemical, and the purifying, quickening, and enriching of the soil with which it has been incorporated are very important factors in a garden that is heavily cropped annually.

It would not be practicable to lay down any precise rule for the application of lime as a manure, and the quantity used must demand chiefly on the soil and its special character. On new ground, especially that which is heavy, lime may be applied in considerable quantities for, as well as bringing about the usual chemical effects already mentioned, it will improve the general texture of the soil and encourage it to "work" more freely. On light soils lime must be used moderately, and even then it is better to mix it with soil, turf in course of disintegration, etc., so as to form a compost. The effect of lime may not show itself till the second or even third year after applying it. Nevertheless, it has been proved that lime is a stimulant, and that crops are heavier, better, and earlier through its addition to the ground, so the fact that results might be slow in coming should not deter the up-to-date gardener from dressing his plots

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(This mention of slow action does not, of course, apply to its use for the destruction of slugs, grubs, etc., which promptly feel the application of caustic lime and lime just slaked.)

In applying lime to the soil it should be used as a top-dressing, or forked in so as to mix it well with the soil. It is well known that lime has a tendency to sinking deeper into the earth, and frequently accumulates in the subsoil. If the nature of the latter will permit, the lime may be recovered by trenching it, and many prefer this to liming repeatedly.

Soot is used very liberally by allotment holders and market gardeners in this part, more so than I have ever seen elsewhere, and I am inclined to think its manurial effect is somewhat over-rated. Analysis shows that a fair sample of "commercial" soot contains about 3½ per cent. of ammonia, 2¾ per cent. of alkali salts, 11 per cent. of carbonate of lime, and 2 per cent. of carbonate of magnesia, and although these figures may look rather important I do not think they are sufficiently so to make soot a manure worth digging into the ground alone, with absolutely no other matter, as a good many seem to do. Soot, in any case, is best applied either as a top-dressing or as a liquid-manure. As a top-dressing to lawns soot is beneficial, and if raked into the soil at the time of sowing some kinds of seeds, as, for instance, Onion, Turnip, and Cabbage, it will gently stimulate the action of the seedling roots as they are produced and at the same time help to protect them from the various kinds of pests that attack different plants. These are to be considered some of the most important functions of which soot is capable, and it seems foolish to rely on it as the sole manure for a garden —H. W. Stenning, in Gardening Illustrated.

LIST OF ALPINE PLANTS

(Continued from Page 4)

Papaver pilosum.
Parochetus communis.
Penstemon hybridus hortensis.
Phlomis samia.
Physalis Franchetti.
Potentilla Nepalensis.
Rehmania angulare (already a success here)
Salvia azurea grandiflora.
Salvia patens.
Salvia scabiosaefolia.
Saponaria ocymoides.
Saxafraga longifolia.
Sempervivums (the entire list of 73).
Silene armeria.
Silene asterias.
Thalictrum Delavayi.
Thalictrum Dipterocarpum (already known here and should be more generally grown).
Verbascum Bosnense.
Verbascum Olympicum
Verbascum Phoeniceum.
Verbascum Willmotti.
Viola Florariensis.

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PLANTS ON DRY LANDS

By Harry Johnson.

In regions of ample rainfall such as we have along the Atlantic Coast the general tone of plant growth is one of exuberant vitality. Before the ravages of civilization have upset the balance of wild life these well-watered areas support a vigorous and dominant forest. In times past the region east of the Mississippi was covered with a jungle of deciduous trees, unbroken save for the rivers and occasional glades. Wild grapes and Virginia creeper festooned the trees, and beneath them, where the forest was open, a thick growth of underbrush made up of redbud, shadbush, fringetree, and blackberry spread in wild confusion. In the spring before the trees quickened to the mounting sun the ground was covered with a carpet of flowering herbs such as bloodroot and hepatica, trillium and dogtooth violet, which could scarcely wait for the snow to melt. Moisture loving mosses, club-mosses and ferns unrolled their fronds and clung prostrate to the humus laden soil. As the weeks passed every moment of the lenient summer was packed with wellorder-ed work, till, with the coming of autumn growth ceased and nature made ready for the long winter sleep.

Such are yet the conditions in the undisturbed forests of New England, and in all this riot of vegetation the limiting factor for growth is temperature.

If we turn, however, to the rain forests of the tropics the luxuriant growth is still seen but it is different in character. For as the climatic factors become more favorable for plant activities the struggle between individuals for light and elbow room become more intense and every conceivable habitat becomes occupied by plants.

But plant life is not limited to countries of considerable warmth. Even the boreal regions during the short summer period become vividly green and the meadows are brilliant with flowers and astir with insect life.

It is when we turn to the drier regions of the world, similar to our own Southwest, that we quickly realize that the exuberant character of the vegetation is lost or else imperfectly and transiently expressed. Nature becomes more cautious; she counts her advantages and husbands her forces against the assaults of the elements. The winter rains may call forth immediate response but the low temperatures are not conducive to rapid growth. Hence, when water is sufficient growth is arrested by lack of heat, and only during the evanescent spring are the two determining factors, warmth and moisture, both favorable. Due to these conditions the vegetation bears the impress of thrift and the prodigalities of more favorable climes is unknown.

The peculiar characteristics exhibited by all plants subjected to a deficiency of moisture are direct compromises between the physiological needs of the organisms and the unhospitable phases of the environment.

Normal plants of rainy regions display no particular structures tending to favor a conservation of moisture; in fact, they sometimes go to the other extreme. Such plants as fuchsias, tropaeolums and many grasses have special pores to allow for the escape of surplus water. In the early morning when the atmosphere is saturated, the jeweled drops may be seen slowly extruding, thus relieving the pressure of the turgid cells. In general such leaves are large and numerous and thin in texture. In their arrangement on the stem, too, the determining factor is easily seen to be light. Such exceptions as the leathery leaved rhododendrons are to be explained as responses to other needs. It may be taken for granted that free water evaporation and the attendant movement of sap favors a rapid, healthy growth.

On the other hand, when the soil in which the roots are imbedded contains an insufficiency of water, and transpiration (the escape of water through the stomata or breathing pores), is not equaled by absorption through the roots, then some means of arresting evaporation must be evolved.

The physical conditions which necessitate such protective devices may be divided into two classes: those dependent upon location or habitat and those dependent upon climate. The first group is expressed locally while the second generally affects larger areas. Under the first class may be included:

1. Salty soils.
2. Sandy or rocky soils.
3. Epiphytic habitats.
4. Sphagnum bogs.

The communities developing in these local habitats differ quite markedly from one another and also from those more specifically controlled by climate.

Plants growing in soils where there is a concentration of salts show by their characters that they are living under decidedly xerophytic conditions. Even with water abundant, as is the case with plants growing in the estuaries of rivers or on tideland flats, the presence of salts in solution greatly inhibits the intake of water through the root hairs. A further factor tending to reduce absorption is the danger of accumulating a concentration of these same salts within the

active assimilating cells which might slow up growth or even kill the plant. In general, such halophytes, as these strand plants are called, show a decided succulence, though none are sufficiently ornamental to be commonly represented in our gardens. Good examples, hoyever, are the salicornias which form dreary, green or reddish mats on our tideland flats.

Sandy or rocky soils are widespread and unless the rainfall is very abundant the flora forms a distinct and characteristic association. Such plants only as are able to withstand periods of moisture scarcity are able to colonize such areas, and where there is a correlation of moisture deficiency and a mild winter the growth, like that of the strand, is characterized by its succulent character.

Plants affecting an epiphytic habitat (viz., perching themselves on trees) have much in common with other xerophytes. High up in the alpine regions of tropical mountains some species occur as terrestrials, though in the lowland forests they may appear abruptly as epiphytes. Their distribution is dependent upon rainfall, but this factor is closely linked up with that of temperature. Very few epiphytes manage to exist in temperate regions. This is chiefly due to low winter temperatures which inhibit water absorption over long periods. In parts of Mexico where the rainfall is copious and the cold season moderate and of short duration, the trees are loaded with an abundant flora. In the Southern States, too, where mild winters are prevalent, a characteristic and dominant plant is the epiphytic Spanish moss (**Tillandsia usneoides**). This plant bears no roots but uses the abundant scaly hairs of its leaves to catch the water which trickles over the pendant stems. In northern regions only the lower seedless plants—algae, mosses, and lichens manage to exist as drought resistant epiphytes. In the tropics a large part of the flora takes to the trees. The impelling necessity is not to escape moisture but to find light. Many herbs and most shrubs, through the careful disposal of their green tissues, are capable of utilizing the diffused light of the underforest, but others, more impatient, have mounted upon their loftier neighbors and, lodged in the treetops, expand their leaves and flowers to the brilliant sunlight. Rosettes are converted into water-cups, roots are spread out over the bark and dangle in tangled masses beneath the boughs, seeking to imprison the rain and dew. Then, to conserve the moisture gleaned with such pains, the stems and leaves have evolved protective measures against the water-hungry sun.

(To be continued in May issue)

THE GARDEN

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be covered four to five inches deep in heavy soil and six to seven in light soils.

It is a good plan to lay out the dahlia bed so as to set bulbs three feet apart each way, and it is a good idea to set a five foot redwood stake, a foot in the ground, at the head of each dahlia bulb, to mark the location of bulb and to support the plant.

Light soils can be fairly wet at time of planting, but on heavy soils less moisture should be used. In both cases ground should be raked over after planting, and if the ground has been properly wet, there should be moisture enough in the soil to sprout the roots. However you must use your own judgment and supply sufficient moisture from time to time, according to your soil conditions, to promote a healthy growth, remembering that as the blooming season approaches your plants will need more water, which can best be supplied by basining round your plants and filling from your house, then cultivating and using a mulch of strawy manure on the surface of the ground round your plants. Don't forget to label each variety at time of planting. You will be glad to know the name of each variety at blooming time

When your bulbs begin to show sprouts above the ground remove all but one or two strong ones and grow your plant from these. To produce large flowers it is necessary to do considerable disbudding. When the flower

APRIL-MAY GARDEN

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ing seed and sowing out of doors as soon as gathered. The young plants should be planted out in moist weather as soon as they are large enough to handle easily and they will flower well the next year.

The very heavy rains have been most trying to Carnations in the open border and just at present they are looking their worst, but they should soon begin to recover. Keep the ground loose around the plants but do not disturb the roots; remove all dead or decaying leaves. Bone meal can be given; also keep a sharp lookout for Carnation maggots which often ruin plants.

Continue to plant Gladiolus.

Put in a lot of "Prims;" they come on well in the late season and are best for decorating the house.

Watch your Chrysanthemum cuttings.

Wage war against insect pests. Aphids enjoy warm weather. A strong spray of water is often effective.

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